

UNOLS Council Report on MISO and PFPE Facilities within WHOI-SSSG

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MISO Operations 2019-2020

- Provided MISO cameras and lander/elevator imaging capabilities to NDSF –Alvin and Jason for numerous cruises in 2019 and early 2020.
- Assessment of NDSF vehicle imaging capabilities and providing suggestions for improvements – especially related to fixed-focus, high-resolution still and 4k video cameras. Continued development of deep-sea imaging capabilities for academic research.
- Assistance/advice with dredging capabilities for several UNOLS vessel operators
- Provided full MISO imaging/sensor system to U. Hawaii for MC800 multicoring cruise (B. Haley – OSU), currently operating south of Hawaii. Extensive Zoom/remote training of UH and OSU techs, successful remote set up of the system at UH under COVID quarantine restrictions, and functionality at depth (~5000m) for coring ops.

PFPE Operations – 2019-2020

- Continued 24/7 support for UNOLS shipboard tech groups operating BGM3 gravimeters
- Significant progress on education of shipboard techs on importance of doing gravity ties and logging/communicating those reference data to R2R as well as PFPE, and maintaining records of tie locations/benchmarks for future use.
- Swap-out of Langseth BGM3 gravimeter sensor (old sensor failed recal and had to be retired)
- Direct, onsite and remote assistance with mob/demob of BGM3 gravimeters on Healy, Revelle, Atlantis, Thompson related to shipyard/mid-life periods. Updating of PFPE documentation/instructions for mob/demob of BGM3 systems
- Swap-out of BGM3 sensor 210 on NB Palmer in Eureka, CA with “Tech Pool” assistance of Emily Shimada (OSU).
- Continued CRADA collaboration with National Geospatial-Intelligence Agency (NGA) in operating BGM3 gravimeters on UNOLS academic research vessels and working with them to upgrade/replace aging BGM3 gravimeters in their inventory. NGA provided a critical Control Power Supply to replace the unit on NB Palmer that allowed that effort to be successful.
- Continued effort to repair aging BGM3 system components and electronics at PFPE.
- Delivery and testing of new DgS AT-1 marine gravimeter (funded through NSF OCE Oceanographic Instrumentation Program (J. Holik). Currently deployed on RV Armstrong alongside a BGM-3 gravimeter. Testing and evaluation on Armstrong to continue through Dec. 2020.

Emily Shimada's tie report – NB Palmer BGM3 sensor swap-out

BGM3 ship-to-shore gravity tie report

Emily Shimada, vessel: R/V Palmer

Release Date: 2020/08/28 20:35:03 UTC

Sensor: S226

Software version: 1.2

Port/Pier/Berth: Eureka, CA

Gravity station number	0004.42
Station name	Fuel Pier-Fields Landing
mGal at pier	980208.21
Tie start time UTC	2020/08/28 19:16:06.162
Samples used	3600
Land tie used	Yes
Water height to pier 1	0 ft 6 in
Water height to pier 2	0 ft 3 in
Water height to pier 3	0 ft 1 in
Average of filtered counts	24845.835520333
Filter length	361
Scale factor	4.990626252
NEW BIAS	856211.96

Table 1: Gravity tie information

RV ARMSTRONG cruise to test the new gravimeter



AR47 cruise to test gravimeters

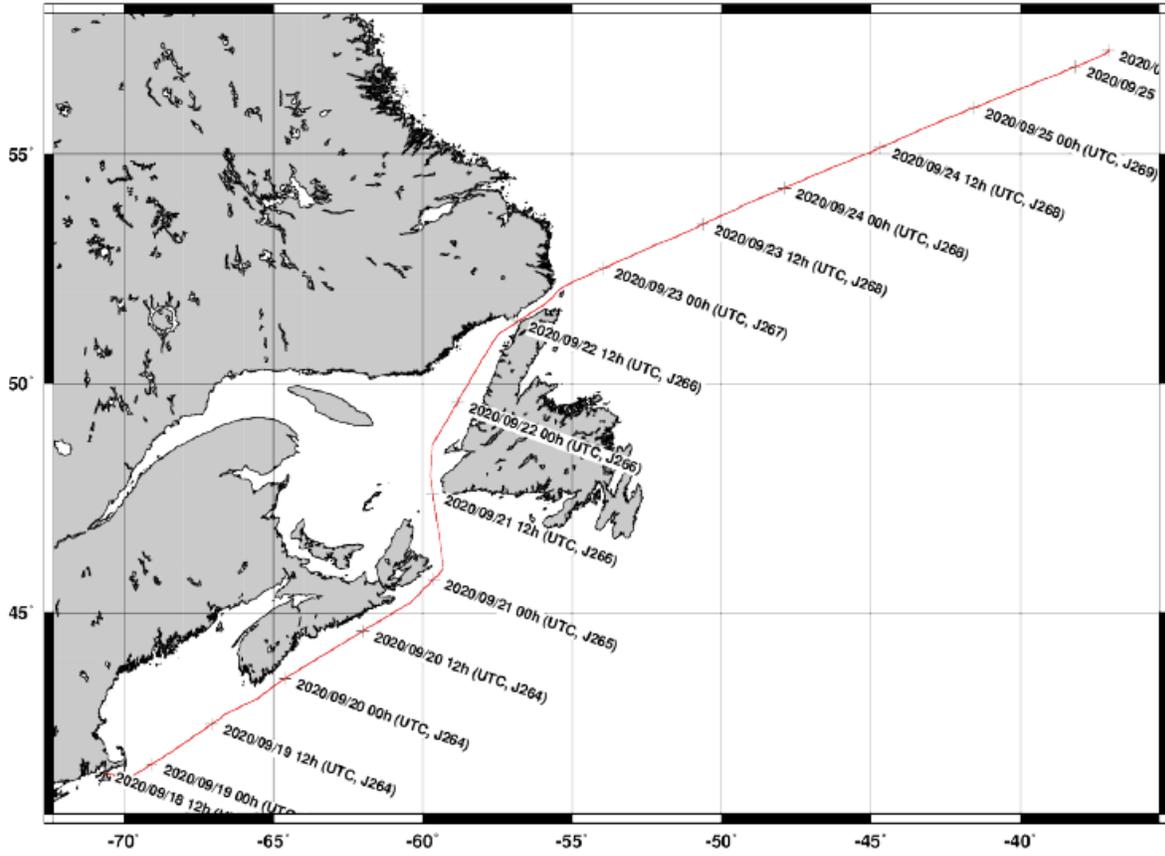


Amy and Tom installing gravimeters

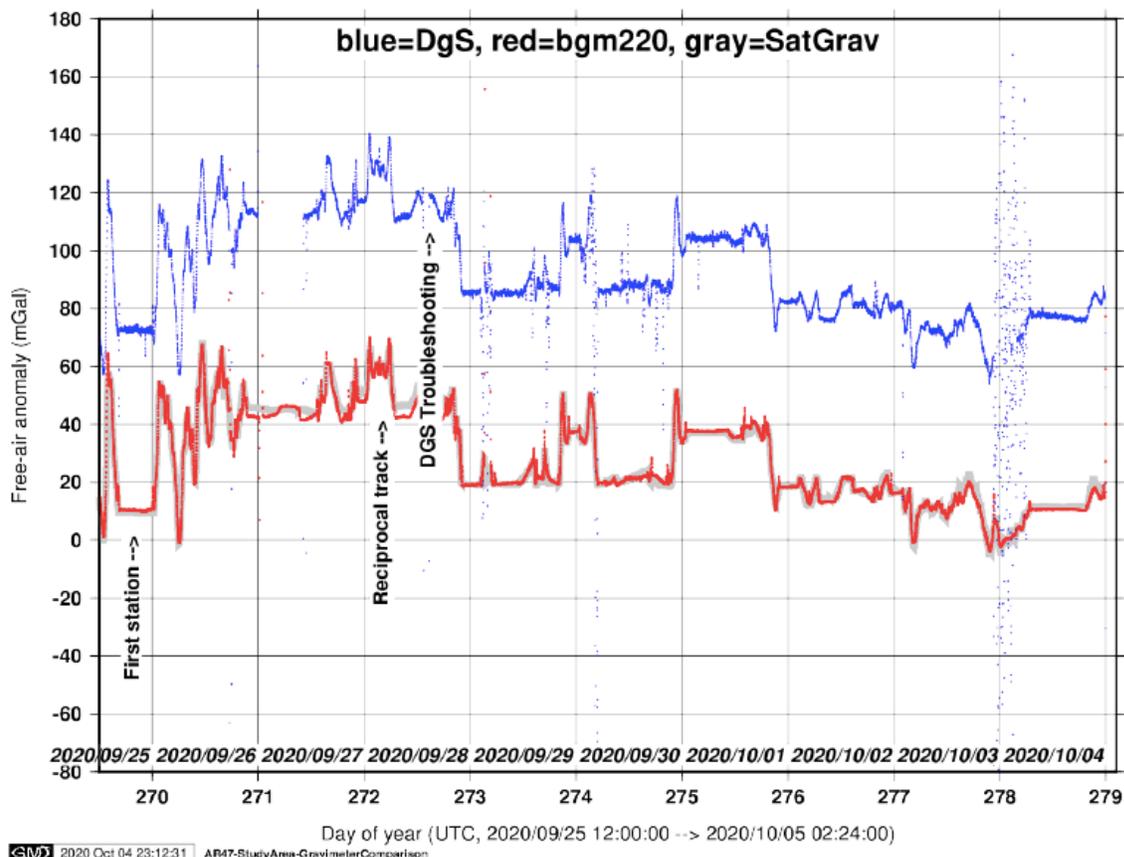


BGM3 and DgS gravimeters in Armstrong's transceiver room

AR47-nav_from_posmv-1min.txt -- Initial Transit Map



AR47 -- Gravimeter Data -- StudyArea



Refurbished Maggie Winches



Refurbished magnetometer winch (1 of 2) for SeaSpy 1 and 2 maggie systems

MISO Cameras installed on a multicore at UH

